FACTORS AFFECTING OUTPATIENT SATISFACTION OF HCMC GENERAL HOSPITALS

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This paper aims at identifying factors affecting outpatient satisfaction in HCMC general hospitals. Research model and scale are based on various theories and researches, and intensive interview with 10 patients. A preliminary questionnaire is worked out and used for interviewing 100 patients and, thereby, adjusting components of each scale. Our research developed 36 principal components used for measuring eight factors: (1) facilities and environment of the hospital; (2) competence of doctors and nurses; (3) service quality; (4) reliability; (5) outcome of diagnosis and treatment; (6) time for diagnosis and treatment; (7) health care cost; and (8) patient satisfaction. Difference in degree to which each factor affects the patient satisfaction depends on ownership of hospitals and payment terms. Generally, five factors that affect the patient satisfaction observed in HCMC general hospitals are: (1) facilities and environment of the hospital; (2) competence of doctors and nurses; (3) service quality; (4) outcome of diagnosis and treatment; and (5) time for diagnosis and treatment.

Keywords: patient satisfaction, quality of medical care service, general hospital, public hospital, private hospital, inpatient, outpatient, public participation in health care service, financial autonomy for public hospital.

1. Introduction

Operations of hospitals have been improved in recent years when the public participation in health care service was encouraged, many private hospitals came into being and developed well, and private persons were allowed to cooperate with public hospitals to open medical care centers to offer high-tech medical care. In addition, private hospitals were included in national insurance program, which offered more options to the insured; and Vietnam, as required by the WTO rules, has allowed foreign investment in health care service. These developments lead to diversification in this sector, increases in number of hospitals and more options for customers. Competition in this sector, especially in outpatient services, therefore, also becomes keener. This competition is mainly for patients who pay health care expenses for themselves, and then for other customers including the insured.

There are many problems with this sector. Complaints about service in public hospitals have been registered while under the financially autonomous mechanism for public hospitals, patients have played an increasingly important role in their income. It is a paradox that public hospitals

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have been suffering from overload while private hospitals and certain wards that serve "on demand" in public hospitals could not work at full capacity. To deal with fierce competition, hospitals should satisfy patients in order to establish a firm relationship with community. This effort brings about both humanistic meaning and profit for hospitals. How to make patients get satisfaction from health care services has become a challenge to managers of hospitals. Most of them, however, can only make decisions on patient satisfaction based on their experience; and these decisions, therefore, usually produce limited effects. They had better deal with the problem through appropriate research models and scales. This is also the objective of our research.
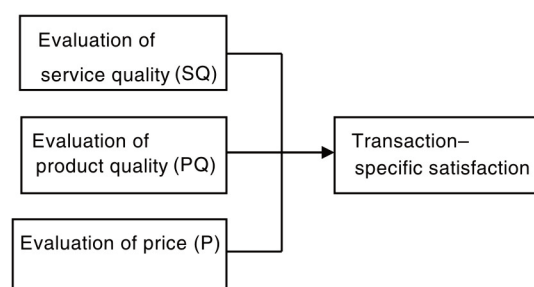
2. Theoretical basis

a. Customer satisfaction:

Richard Oliver (1981) who has conducted research into satisfaction in retail situations defines satisfaction as follows "…summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the customer's prior feelings about the consumption experience." Thus, Oliver mentions three factors of the satisfaction: (1) expectation; (2) emotion; and (3) consumption experience. Customers' emotion is momentary while their experience of each service requires a certain period of time before they can have a clearer conception of the service. All of these factors are related to structure and ways of measuring the satisfaction adopted by later authors.

When exploring service quality, Parasuraman et al. (1985, 1988) measure the customer satisfaction but antecedents of satisfaction are not clarified. Teas (1993) expresses satisfaction as a function of service quality originated from customer's perception of a specific transaction. Based on these findings, Parasuraman et al. (1994) develop two types of satisfaction: (1) transaction satisfaction; and (2) overall satisfaction. Satisfaction with a specific transaction is a "now-and-here" one (Grönroos, 1998) while overall satisfaction comes from accumulation of transactions over time. Dabholkar (1995) finds that satisfaction and service quality are two separate constructs that can be distinct in the short term, but they can converge (or overlap) in the long time. Parasuraman et al.

(1994) include two more factors in the model: product quality and price. Besides the three above-mentioned factors, two others also affect the satisfaction: situational and personal factors (Zeithaml et al., 1996, 2000). Fit of model of satisfaction suggested by Parasuraman et al. (1994) and Zeithaml et al. (1996, 2000) has been tested when applied to automobile maintenance service (Lien-Ti Bei, 2001), restaurant industry (Andaleeb et al., 2006), health care service (Andaleeb et al., 2007), and air transport (Clemes et al., 2008; Mohamad Rizan, 2010).

Figure 1: Model of transaction–specific satisfaction

Source: Parasuraman et al. (1994), *Journal of Marketing*, January, p.121

Donabedian (1988) maintains that the health care service aims at not only improving patients' condition but also satisfying them by meeting their expectations and needs. Donabedian argues that communication acts as a vehicle for patients' information needed for diagnosis and choice of treatment by which technical care achieves success. According to WHO (*Workbook*, 2000), patient satisfaction is determined by: physical setting of services; helpfulness of support staff, information resources; competence of counselors; cost of service; relevance of services to patients' needs; accessibility of services; waiting time; and effectiveness of services. When the concern is with the extent to which patients are satisfied with the context, processes, and perhaps the costs of a treatment service or network, the relevant measures of satisfaction can be viewed as process measure. However, when the concern is with the extent to which patients view the program as having been helpful in resolving their problems, patient satisfaction becomes a proxy outcome measure.

Marketing studies and materials related to health care services show that factors affecting

the patient satisfaction match views presented by Parasuraman et al. (1994) and Zeithaml et al. (1996, 2000). They are service quality, costs, personal and situational factors; and the most important is the service quality.

b. Health care service in Vietnam:

Statute for hospitals issued by Ministry of Public Health in 1997 defines medical examination and treatment as one of seven principal tasks for hospital. This task comprises inpatient and outpatient treatment. Inpatient treatment is carried out when patients are committed to hospitals for treatment and special care for a certain period of time, while outpatients need not stay at the hospital. Those two services are concerned to different operations and groups of assistants, cooperation between patients and doctors, and combination of diagnosing data needed for working an effective treatment scheme that aims at improving or recovering patients' health. Health care, like other services, also has features of a
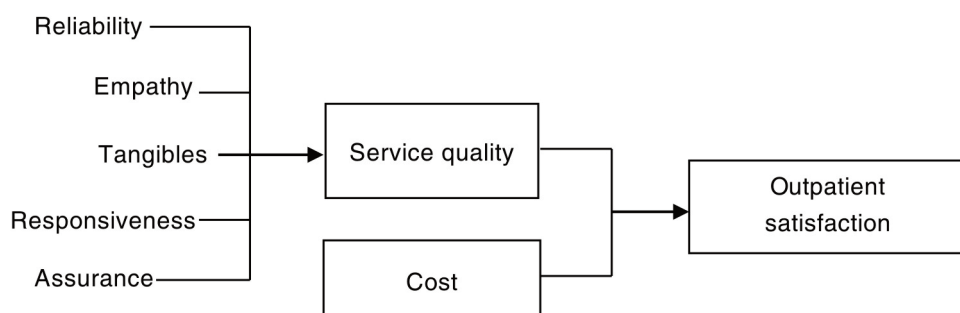
uring factors affecting the patient satisfaction. In Vietnam, outpatient service means a heavy workload for hospitals (Lê Ngọc Trọng et al., 2001). An investigation of 932 hospitals in Vietnam conducted by Ministry of Public Health in 2008 shows that inpatients represent only 7.7% of hospitals' clients.

3. Methodology

a. Theoretical model:

This research uses the model introduced by Parasuraman et al. (1994), and Zeithaml et al. (1996, 2000) to develop a theoretical model of patient satisfaction in Vietnam. Demographical attributes are gathered to outline characteristics of samples. In addition, a situational criterion is applied to patients who need not stay overnight at hospital. In other words, this research only aims at outpatients and outpatient health care services. The theoretical model of outpatient satisfaction is as follows:

Figure 2: Theoretical model of outpatient satisfaction

service in general but it has two characteristics of its own: (1) relationship between patients and doctors that is traditionally a center of attention; and (2) outcome of treatment process that is determined by various factors, such as nature of diseases, competence of doctor, facilities of hospital, cooperation between patient and doctor, patient's financial resource, and capability of the health care service, etc. In addition, besides difference in patients' stay at hospital, other differences between outpatient and inpatient services are found in structure of services, process and implementation of services, duration of stay at hospital and costs of services. Thus, theoretically, those two services are not different in terms of their models of satisfaction except for constructs used for meas-

Moreover, because the research focuses on the causal relationship between factors and patient satisfaction, it only measures patients' perception via a specific transaction according to the approach taken by Cronin & Taylor (1992), Teas (1993), and Zeithaml et al. (1993); and components of service quality that affect directly the satisfaction according to the approach suggested by Andaleeb et al. (2001, 2007).

a. Bases for development of scales:

The scale developed by Babakus & Mangold (1992) is a selective application of SERVQUAL scale in outpatient service in the U.S. The scale of health care services for outpatients in South Korea whose reliability is tested by Choi et al. (2002) and Cho et al. (2004), and some other scales are

also used for supporting a qualitative research in HCMC general hospitals.
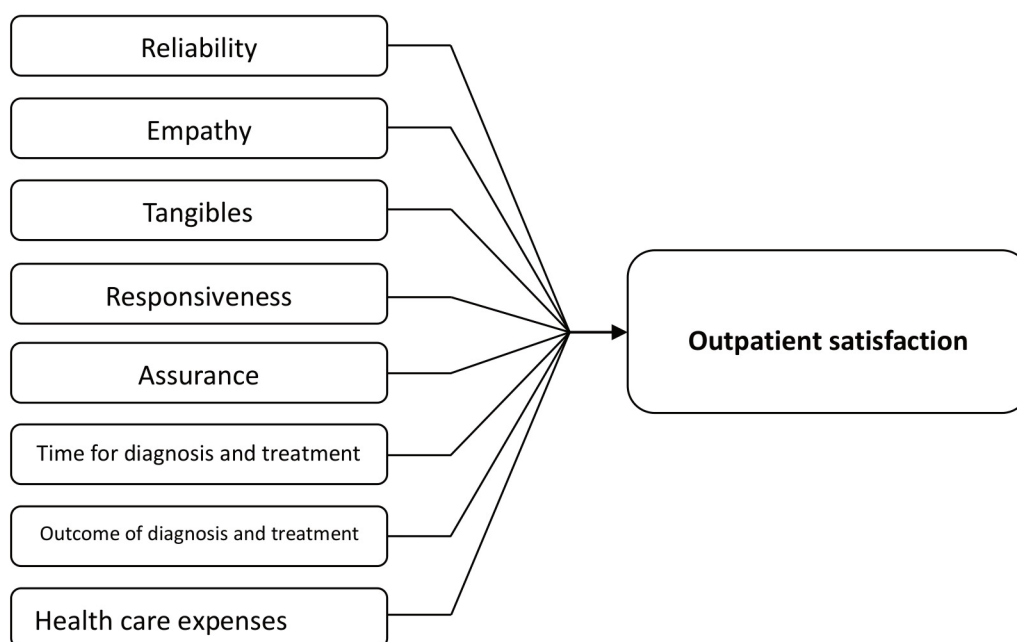
b. Qualitative research:

Intensive interviews with 10 outpatients show that most of them are concerned about quality of health care services. Many ideas in their opinions are different from or similar to components of scales. These opinions are classified according to SERVQUAL five dimensions ((Parasuraman et al.

prefer private hospitals because everything is carried out quickly there. They also complain about narrow rooms, bad hygienic conditions, lack of guidance, limited communication between patients and doctors, and difficulties in finding rooms or wards they need.

Results of the interviews make us to add two more components: "outcome of diagnosis and treatment" and "time for diagnosis and treatment" to the model.

Figure 3: Resulting research model

1988). Most patients appreciate the role of doctors in outpatient services. Patients to public hospitals show trust in facilities and expertise of hospital staff members but some of them are not content with staff members' attitude towards patients. Patients always think about skills of doctors and nurses. The interviews also show that they all want to regain their health, which is their main goal when visiting the hospitals, and want to get information about their conditions (results of tests, nature and state of their illnesses, etc.). This fact is appropriate to Zeithalm's observations in his theory of service (1993). Patients worry about their ability to pay when selecting a hospital, especially a private one. In addition, prolonged time of treatment usually produces negative effects on patients' mentality. Some patients say that they

c. Scales:

To get final scales, a preliminary questionnaire is worked out and used for tentative interviews with 100 outpatients, and a 5-point Likert scale is used for measuring observed variables. Gathered data are analyzed and components of each scale are adjusted and perfected if need be. Thirty-six components are developed and used for measuring the following nine factors: (1) reliability comprising four components; (2) empathy, four components; (3) tangibles, six components; (4) responsiveness, three components; (5) assurance, five components; (6) time, three components; (7) outcome of diagnosis and treatment, four components; (8) cost, three components; and (9) satisfaction, four components.

d. Design of quantitative research:

Face-to-face interviews are conducted or questionnaires sent to outpatients to Nguyễn Tri Phương and Vạn Hạnh Hospitals and Medic Medical Center. Planned size of samples is 450; and stratified sampling method is applied according to ratio of patients to kinds of disease. Common problems found in hospitals in HCMC are respiratory, circulatory, digestive, urinary, nervous, and musculoskeletal diseases. Surveyed patients are literate, in the 20-65 age bracket, and finished at least one treatment period in 2010. SPSS 17.0 is used for processing data. Reliability of scales is tested with Cronbach's alpha. Factor analysis is conducted with extraction of main components and rotation by a right angle, and the model is adjusted according to extracted factors. Correlation analysis, regression analysis and test of hypotheses are also conducted.

4. Research results

a. Characteristics of samples:

Sample for this research comprises 457 outpatients to Nguyễn Tri Phương (41%) and Vạn Hạnh (21%) Hospitals and Medic Medical Center (38%). Proportion of disease approximates to the plan. Only 9% of patients have primary education, and 91% gain higher one. Some 91% of them are in the 20-60 age bracket; and 38% of them are wage earners. Regarding their income: 69% earn from VND2 to 6 million, and only 7% earn more than VND6 million. Thus, this sample represents majority of patients in terms of income. Some 42% of them have medical insurance and 58% pay expenses by themselves; 88% of patients to public hospitals are the insured while 89% of patients to private hospitals have no medical insurance.

b. Scales:

With n = 457, all nine scales have Cronbach's alpha greater than 0.7 and item-total correlation of all observed variables is greater than 0.3. Factor analysis of each scale produces a variance extracted greater than 50%.

c. Result of factor analysis:

With KMO equaling 0.912 and a significance smaller than 0.001 produced by Barlett test, seven factors are extracted with a total variance extracted of 68.8% and Eigenvalue of each factor smaller than 1. Four factors with their components unchanged are tangibles, outcome of diagnosis and treatment, time for diagnosis and

treatment and health care cost. In the variable "reliability," there remain three components because the third component is combined with others to form the Factor 2. Components of "reliability," "empathy," and "competence" are rearranged into Factors 2 and 4.

Table 1: Value of factors

Factor	Eigenvalue	Variance extracted	Cronbach's alpha
1	11.078	12.365	0.868
2	2.802	12.159	0.881
3	2.287	11.022	0.843
4	1.803	10.552	0.899
5	1.618	7.865	0.87
6	1.327	7.791	0.802
7	1.099	7.043	0.826
Total		68.80%	

d. Adjusted model:

- Satisfaction is a dependent variable, and seven independent variables are as follows:

Variable 1: Hospital facilities and environment (TAN) with six components

Variable 2: Competence of doctors and nurses (PRO) with 8 components

Variable 3: Outcome of diagnosis and treatment (OUT) with 4 components

Variable 4: Care for patients (CARE) with 5 components

Variable 5: Time for diagnosis and treatment (TIME) with 3 components

Variable 6: Reliability of hospital (REL) with 3 components

Variable 7: Health care cost (COST) with 3 components

- Seven hypotheses for seven independent variables are as follows:

H1: Patients think that the better the hospital facilities and environment, the higher their satisfaction. Similar statements are applied to hypotheses H2, H3, H4, and H6.

H5: Patients think that the longer the time for diagnosis and treatment, the lower their satisfaction. A similar statement is applied to hypothesis H7.

- Regression equation:

Satisfaction = a   + b1*Hospital facilities and environment
                    + b2* competence of doctors and nurses
                    + b3* outcome of diagnosis and treatment + b4* care for patients + b5* time for diagnosis and treatment + b6*reliability + b7*health care cost

In which: a is a constant; b1, b2, b3, b4, b5, b6, and b7 are regression coefficients

- Regression analysis:

Except for variable "cost," all variables in the model have correlation with one another with a significance smaller than 0.05 and correlation coefficients smaller than 0.85. Variables that have positive correlations with satisfaction are "competence of doctors and nurses, care for patients, outcome of diagnosis and treatment, hospital facilities and environment, and reliability. Time for diagnosis and treatment has a negative correlation with satisfaction while cost has no correlation with satisfaction.

- Assumption of normal distribution of residual is not violated when carrying out analysis of multiple linear regression. Because mean of residual approximates 0 and standard deviation approximates 1, the residual distribution is nearly normal.

- Multicollinearity is tested for each model based on VIF < 10 and condition indexes < 30 to ensure that all of these models are free from multicollinearity.

e. Linear regression models:

General model of outpatient satisfaction (n = 457) has a value of F significance smaller than 0.001 and can prove that 71.9% of changes in satisfaction are determined by five independent variables.

SAT = 0,196*TAN + 0,269* PRO + 0,315*OUT + 0,178* CARE − 0,093*TIME

Results of regression analysis based on filled samples support hypotheses H1, H2, H3, H4, and H5; and reject H6 and H7. The factor that produces the greatest effect is outcome of diagnosis and treatment, followed by competence of doctors and nurses. Cost does not affect the outpatient satisfaction. We continue to analyze the data according to kinds of hospital and ways of paying health care expenses (payment terms), and come to four significant models more.

- Model of satisfaction among outpatients to public hospitals (n = 187) with F significance greater than 0.001: This model explains 74.1% of changes in satisfaction as effects of four independent variables.

SAT = 0,213 *TAN + 0,262*PRO + 0,302*OUT + 0,225*CARE

- Model of satisfaction among outpatients to private hospitals (n = 270) with F significance greater than 0.001: This model explains 73.6% of changes in satisfaction as effects of five independent variables.

SAT = 0,255*PRO + 0,387*OUT + 0,171*CARE + 0,090*REL − 0,167*TIME

- Model of satisfaction among insured outpatients: This model is similar to the one of outpatients to public hospitals because those two models have 85% of data in common.

- Model of satisfaction among non-insured outpatients: This model is similar to the one of outpatients to private hospitals because those two models have 91% of data in common.

Three factors that exist in all five models: (1) outcome of diagnosis and treatment; (2) competence of doctors and nurses; and (3) care for patients. The first factor has the greatest effect, which is similar to results of the qualitative research. In spite of complaints about high health care cost, the quantitative research shows that "cost" produces no effect in all five models.

To explain differences between components in the models, we consider mean of each component, interview intensively some outpatients, and re-examine facilities and environment of three hospitals. We come to the following remarks:

- Reliability has the biggest mean among researched constructs: in Kano model, reliability is considered as a basic and indispensable component in health care service; and increases in reliability do not increase the satisfaction. Without

this component, however, patients feel disappointed.

- In private hospitals, patients tend to be more demanding and reliability does affect their satisfaction. Patients to public hospitals say that they have trust in competence of staff members and expenses there are affordable. Moreover, they accept long waiting time when heavy workload is common among public hospitals.

- One fact that is worth noting is effect of hospital facilities and environment on outpatients to private hospitals. Firstly, there is a significant difference in facilities and environment between two private hospitals included in this research that shows itself when comparing mean values. Environment is a strength of Vạn Hạnh Hospital while technical facilities constitute an advantage for Medic. Secondly, improvement in the environment in Medic is not as quick as that in technical facilities. Thirdly, only one component of the scale "facilities and environment" refers to technical facilities, which leads to some limitation when applied to Medic. Although its technical facilities are very good, mean value of this component in Medic is small, with a significance of under 0.001, in comparison with Vạn Hạnh, and the difference between them is 0.52. Although the test shows that this scale is reliable, its design shows some shortcoming and should be adjusted in the future.

5. Implications from research results

This research can help hospital managers understand customer viewpoints and offer some instruments for improving patient satisfaction towards hospitals. Health care outcome is the most important factor that affects the outpatient satisfaction. Realities show that there is not a significant difference in health care outcome between outpatient wards in hospitals of the same size. To get diseases cured is a human instinctive expectation. It does not change over time and is considered as a basic objective of all hospitals. Improving the health care outcome, therefore, is a must but not a long-term competitive advantage. Strategically, hospitals had better create a differential satisfaction and this difference must be appreciated by patients and community because it is a basis for a firm relationship with the community. The factor "competence of doctors and nurses" for example comprises eight components originated from two groups: (1) professional competence and (2) communicative competence. Traditional viewpoints tend to pay more attention to the first group than the second one. Professional competence is an indispensable skill while communicative one comes from a sincere concern for patients. The latter is a soft skill important to enhancement of patient satisfaction. Therefore, hospitals should adopt a right personnel policy and

implement it correctly and consistently. It is not easy for an army of doctors, after a period of time, to make a community think of them in a different and positive manner in comparison with their counterpart in other hospitals. This requires time, costs, consensus among hospital employees and determination of hospital managers. Mentioning the difference does not mean ignoring other factors, such as facilities and environment of hospital, attitude of hospital staff towards patients, saving of time, and solutions that produce intended results. It is worth noting that cost of outpatient services has no effect on patient satisfaction. However, patients are sensitive to costs when choosing a hospital because Vietnam is still in the group of low-income countries, therefore hospitals should make their pricing policy appropriate to target clients.

Public hospitals should deal properly with shortcomings in communicative skills and attitude of staff members towards patients in order to enhance the patient satisfaction. Health care centers in public hospitals should pay attention to other needs of clients, such as saving of time and reliability of medical services.

Establishment of new private hospitals is a favorable condition for positioning each hospital in health care sector, which leads to different model of satisfaction for each private hospital. Private hospitals can apply IT to arrange timely appointments for patients and ensure safe and exact records. Consulting rooms must ensure privacy for patients. More investment should be put in improvements in hospital facilities and environment because supply of merely technical services is replaced by effort to offer overall quality services.

6. Research limitations and implications for future researches

Samples are gathered from only three general hospitals, results therefore have not reflected exactly the satisfaction among outpatients of HCMC general hospitals. Moreover, patients' perception of quality of health care services is not always clear and exact. The scale "hospital facilities and environment" has its own limitations and it should be divided into (1) technical facilities; and (2) hospital environment. Model of satisfaction among high-income outpatients requires more researches. This study could serve as a basis for future researches on repeated use of services, choice of hospital and acceptance of health care expenses. In addition, satisfaction among inpatients is also worth exploring∎

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